REMARKS

Claims 1-3 and 5-31 were presented for examination, and all have been rejected under 35 U.S.C. § 103. No claim is being amended. In view of the following remarks, reconsideration of the application is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 103 – Emens and Sun

In paragraph 3 of the above-mentioned Final Office Action, claims 1-3, 5-23, and 26-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S patent number 6,606,643 issued to Emens et al ("Emens") in view of U.S patent number 6,732,264 issued to Sun et al ("Sun"). The rejection of these claims is traversed. Emens and Sun, either alone or in combination, do not teach every elements of the claimed invention. The alleged motivation for combining Emens and Sun is improper. Showing a prima facie case of obviousness fails.

The Office Action corresponded the claimed "first resource" to Emens' client computer 10 and the claimed "second resource" to Emens' mirror server 16-24. However, Emens' does not teach, suggest, or make obvious that Emens' client computer 10 and servers 16-24 are "allocated to be assigned to a program" as in claim 1. In Emens, the mirror server is selected for the "*client computer* requesting web content . . . " (Abstract, emphasis added). For the claimed invention to be parallel with Emens, the claimed second resource must be selected for the claimed first resource, which is not true in the claimed invention. In fact, in the claimed invention, *both the first resource and the second resources* are "allocated to be assigned to a program," which is not disclosed, suggested, or made obvious by Emens. The cited paragraphs of column 7, lines 35-67 discloses that the client computer includes a

browser application interface, a distribution manager, a calibration manager, and multiple calibration applets that correspond to mirror servers on a list of possible mirror servers. The browser application interface interacts directly with the external world, the distribution manager and calibration manager program modules. The paragraph also discloses responsibility of those program modules. Further, the cited paragraph discloses that the host server program includes a query manager and a mirror server manager, and also discloses the responsibility of these managers. Even though this paragraph discloses a method of selecting a mirror server for client-host interaction, there is nothing that can be parallel to the claimed "the first resource and the second resource are allocated to be assigned to a program." The cited paragraph of column 3, lines 28-37 discloses that the invention of Emens includes software technology intended to be embedded within the client computer web-browser program and a host server program that responds to initial client computer request. When a client computer tries to access a uniform resource locator address, the information request is sent to a central host server computer to which the internet protocol address corresponding to the URL. Again, there is nothing in this cited paragraph of Emens that can be patentably parallel to the claimed "the first resource and the second resource are allocated to be assigned to a program."

Sun does not provide the missing elements in Emens. Even though, as the Office Action correctly asserted that, Sun discusses "the system firmware that includes program code know [sic] as BIOS, which contains boot code used when the system is reset or powered on" and that "BIOS boot code also contains hardware configuration and resources tables that contain lists of resources," Sun does not teach, suggest, or make obvious that the system firmware stores the claimed distance between the computer resources and that "upon power-up, an operating system is provided, from the firmware, with the distances between the computer resources for

use in allocating the first resource and the second resource" as in the claimed invention.

For the foregoing reasons, Emens and Sun, either alone or in combination, do not teach every elements of claim 1.

The Office Action asserted that "[i]t would have been obvious . . . to combine the teachings of Emens . . . and Sun . . . because Sun et al's use of firmware and providing an operating system with data from firmware in Emens et al's method would decrease the processing time of an information request sent by a client by allowing the client computer to obtain a previously stored list of the nearest server upon startup from firmware without the need to re-query each server among the mirror servers to locate the nearest server." It is respectfully submitted that this assertion is a general conclusory statement without providing concrete evidence. There is no teaching or suggestion in Emens or Sun for Emens to acquire the nearest mirror server at power-up. There is not any suggestion in either Emens or Sun to combine the method of selecting a mirror server in Emens and firmware booting for computers in Sun. It is not of common knowledge to combine these two fields, either. As a result, the alleged motivation for combining Emens and Sun is improper, and showing a prima facie case of obviousness fails.

For the foregoing reasons, claim 1 is patentably distinguished from Emens and Sun, either alone or in combination, and is therefore patentable. Claims 2-10 excluding canceled claim 4 depend from claim 1, and are therefore patentable for at least the same reasons as claim 1. Claims 2-10 are also patentable for their additional limitations. For example, even though Emens discusses the response time from the mirror server to the client computer, neither Emens nor Sun teaches the claimed feature that the distance between the computer resources is a distance measured from one resource to another resource or a distance measured relative to a distance used as

a reference. Emens and Sun do not teach the concept of "nodes" and therefore cannot disclose that the distance between the computer resources is measured by the distance between nodes containing the resources. Even though Emens discloses the response time from the mirror server to the client computer, Emens does not disclose that the distance between the computer resources is provided by the time taken to transfer data from one resource to another resource. Emens does not disclose the concept of "nodes" and thus cannot disclose a node including at least one resource being either an I/O device, a memory device, or a processor, which, as claimed, is allocated to be assigned to a program. Emens does not disclose that the resources in a node are on a same bus or share a point-to-point link. The cited figure 2 shows the client computer and the mirror servers are connected to the Internet, but does not show "resources in a node are on a same bus or share a point-to-point link," as in the claimed invention. Emens does not disclose that the first resource is an input device associated with a storage device storing the program or storing data associated with the program. As discussed above, Emens does not disclose the program to which the first resource and the second resource are assigned. Emens' client computer, which is corresponded to the first resource is not an input device associated with a storage device storing the claimed program or storing data associated with the claimed program. Emens's cited paragraph of column 11, line 40 to column 12, line 6, does not disclose allocating a third resource of a third-resource type (e.g., a resource different from client computer 10 or mirror servers 16-24), and thus cannot disclose the shortest distance between the first resource or the second resource to the resources of the third-resource type.

In paragraph 15, claims 11-20 were rejected under the same rationale as claims 1-3 and 5-10. However, claim 11 includes the limitation that "the first resource and second resource are selected based on a plurality of distances including *distances between a plurality of first-type resources* to *a plurality of second-type*

resources" (emphasis added), which is not disclosed in Emens. Emens shows only *one* client computer (e.g., the first resource), and does not disclose distances between a plurality of first-type resources or distances between a plurality of first-type resources to a plurality of second-type resources. Other arguments related to claim 1 above are applicable to claim 11. Arguments related to claim 2-9 are also applicable to claims 11-19. Therefore, claims 11-19 are patentable.

Claim 20 recites limitations corresponding to claim 1 and is therefore patentable for at least the same reasons as claim 1.

Claim 21 recites the limitation that "a distance between the first resource and the second resource is the shortest distance among the distances between the plurality of first resources to the plurality of second resources." As discussed above, Emens' figure 2 shows only one client computer that was corresponded to the claimed first resource, and does not disclose the distances between the plurality of first resources to the plurality of second resources. Other arguments related to claim 1-9 are applicable to this claim 21.

Regarding claim 22, even though Emens discusses the response time from the mirror server to the client computer, Emens does not disclose the distance between the I/O device to the memory device, the distance between the I/O device to the processor, the distance between the memory device to the processor. Emens does not disclose that "a distance between the I/O device to the memory device is the shortest distance among distances between the plurality of I/O devices to the plurality of memory devices," " a distance between the I/O device to the processor is the shortest distance among distances between the plurality of I/O devices to the plurality of processors," "a distance between the memory device to the processor is the shortest distance among distances between the plurality of memory devices to the plurality of processors."

Even though, as the Office Action correctly asserted that, Sun discusses "the system firmware that includes program code know [sic] as BIOS, which contains boot code used when the system is reset or powered on" and that "BIOS boot code also contains hardware configuration and resources tables that contain lists of resources," Sun does not teach, suggest, or make obvious the claimed invention in which the "firmware embodying distances between resources including a plurality of I/O devices, a plurality of memory, and a plurality of processors; the resources residing in a plurality of resource nodes."

For the foregoing reasons, Emens and Sun, either alone or in combination, do not disclose, suggest, or make obvious every elements of claim 22. As discussed above in relations to claim 1, the alleged motivation for combining Emens and Sun is improper. Showing a prima facie case of obviousness fails. As a result, claim 22 is patentably distinguished from Emens and Sun, either alone or in combination, and is therefore patentable.

Claims 23-31 depend from claim 22 and are therefore patentable for the same reasons as claim 22. They are also patentable for their additional limitations. For example, Emens does not teach, suggest, or make obvious the concept of "nodes" which include resources to be allocated. Element 12 of Emens is a host server, which is patentably distinguished from the claimed node including resources to be allocated to be assigned to a program. Emens does not teach the claimed node of the plurality of nodes that includes resources to be allocated to be assigned to a program. The claimed node includes one or a combination of one or more of an I/O controller connected to I/O devices, a memory controller connected to memory arrays, and one or more processors. The cited mirror servers were corresponded to the resources to be allocated, and are not patentably corresponded to the claimed I/O controller, memory controller, and processors. Further, these I/O controllers and memory controllers are

connected to I/O devices and memory arrays, which are not disclosed in Emens. Emens does not teach the claimed node that includes a bus connecting an I/O controller, a memory controller, a plurality of processors, and a bridge, etc. The cited figure 2 shows an Internet connection (col. 7, line 4-5), which is patentably distinguished from the claimed node. Regarding claim 28-30, the cited Abstract and column 3, line 37 to column 4, line 25 discuss the method of selecting a server wherein the host server sends a list of IP addresses; each IP address corresponding to an available mirror server. The client computer, via applets, then initiates multiple threads each of which corresponds to a received IP address. Subsequently, each of the applets sends mirror server requests to the designated IP address of the mirror servers. In turn, the mirror servers each send a response back to the client computer. Each applet then measures the round trip latency. The process is repeated for a number of times and a running average of round trip latency is maintained. The applet with the lowest roundtrip latency is identified as the winner, and the browser connects with the replica mirror server site corresponding to the winner's associated IP address. These cited paragraphs, as can be seen, do not disclose the claimed feature that "an I/O device is first allocated, then a memory array is allocated; a distance between the memory array to the I/O device is the shortest distance among a plurality of distances between a plurality of memory arrays to the I/O devices," or "a processor is allocated; a distance between the processor to the I/O device is the shortest distance among a plurality of distances between a plurality of processors to the I/O device," or "a processor is allocated; a distance between the processors to the memory array is the shortest distance among a plurality of distances between a plurality of processors to the memory array." Even though Emens discloses software incorporating the process steps and each of the software portions comprises a computer program that may be stored on a program storage device, Emens does not disclose the claimed first

resource being an I/O device connected to a storage device storing the program or storing data associated with the program. The claimed program uses the first resource allocated for the claimed program.

<u>REJECTIONS UNDER 35 U.S.C. § 103 – Emens and Sun</u>

In paragraph 31, claims 24 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Emens in view Sun and in further view of U.S patent number 6,732,264 issued to Zadikian et al ("Zadikian"). The rejection of these claims is traversed. Emens, Sun, and Zadikian, either alone or in combination, do not teach every elements of the claimed invention. The alleged motivation for combing Emens, Sun, and Zakikian is improper. Showing a prima facie case of obviousness fails.

Claims 24 and 25 depend from claim 23 and are patentable for at least the same reasons as claim 23. Claims 24-25 are also patentable for their additional limitations. Zadikian does not provide the limitations being missed in Emens and Suns. Therefore, claims 24 and 25 are patentably distinguished from Emens, Sun, and Zadikian, either alone or in combination.

Regarding claim 24, the cited paragraph of column 3, lines 35-40 discloses two links, each having three paths and the switching fabric that supports the six possible combinations. The cited column 16, lines 10-28 illustrates the switching matrix using the crossbars and the switching matrix with input and output signals, but does not disclose "a node-controller chip connects at least one I/O controller, one memory controller, a plurality of processors and a plurality of crossbar chips; and a crossbar chip, on a first side, connects to at least a node controller chip, and, on a second side, connects to at least either a crossbar chip or another interconnect chip," as claimed.

Regarding claim 25, even though Zadikian teaches the use of a switching fabric that supports six combinations of connections, a node controller that contains

routing protocols, and the use of a crossbar device, Zadikian does not disclose the claimed node that includes a node-controller chip connecting at least an I/O controller, a memory controller, and processor, and another node.

The Office Action asserted that "[i]t would have been obvious . . . to combine the teachings of Emens, Sun, and Zadikian because Zadikian's use of an interconnect fabric, node controller, and crossbar in Emens and Sun's system would have provided a system that can route information from node to another node on a network." This assertion is a general conclusory statement without providing supporting evidence. As discussed above, the alleged motivation for combining Emens and Sun fails. Further, there is not any teaching or suggestion to combine the routing of Zakadian and the selection of a mirror server in Emens or the routing of Sun. It is not a common knowledge to combine the teachings, either.

For the foregoing reasons, claims 24 and 25 are patentably distinguished from Emens, Sun, and Zadikian, either alone or in combination, and is therefore patentable.

SUMMARY

Pending claims 1-3 and 5-31 clearly present subject matter that is patentable over the prior art of record, and therefore withdrawals of the rejections and consideration of the claims are respectfully solicited.

Respectfully submitted,

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